

8. Attach a ball joint puller (Honda part No. 07934-5510000) or equivalent (A, **Figure 49**), to the ball joint and tighten with a wrench (B, **Figure 49**). Remove the steering knuckle from the lower A-arm and withdraw the shock absorber from the receptacle in the steering knuckle.

9. Remove the steering knuckle.

10. Inspect the steering knuckle as described in this chapter.

11. Install by reversing these removal steps while noting the following:

- Install the steering knuckle onto the lower end of the shock absorber and align the split in the knuckle with the projection on the shock absorber.
- Tighten the shock absorber pinch bolt to the torque specification listed in **Table 1**.
- Install the steering knuckle onto the lower A-arm. Install the castellated nut and tighten to the torque specification listed in **Table 1**.
- Install a new cotter pin and bend the ends over completely.

Inspection

- Inspect the steering knuckle for cracks or damage, replace if necessary.
- Inspect the spindle portion where the front wheel bearings ride for wear or damage. A hard spill or collision may cause the spindle portion to bend or fracture. If the spindle is damaged in any way, replace the steering knuckle.
- Check the hole at the end of the spindle where the cotter pin fits. Make sure there are no fractures or cracks leading out toward the end of the steering knuckle. If any are present, replace the steering knuckle.

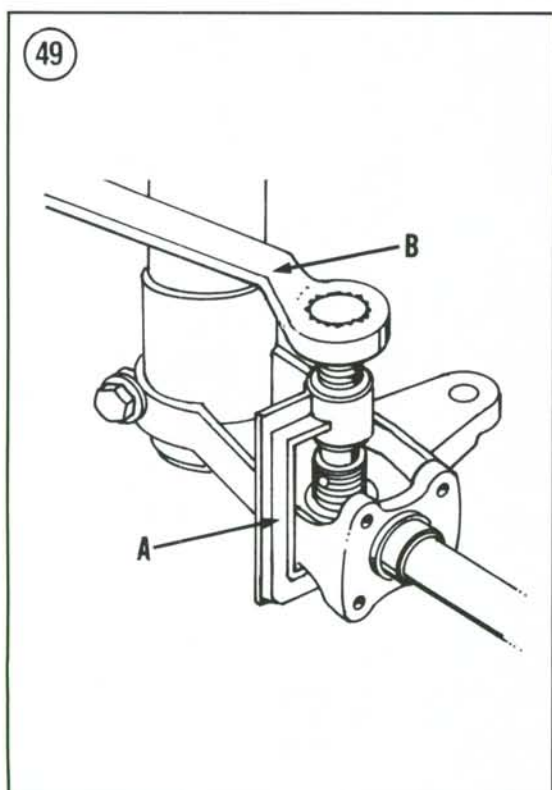
STEERING KNUCKLE (4-WHEEL DRIVE AND 1993-ON 2-WHEEL DRIVE)

Removal/Installation

Refer to **Figure 50** for this procedure.

NOTE

In this procedure where reference is made to "On 4-wheel drive and 1993 2-wheel drive models," the 4-wheel



drive model is shown in the photographs. The only major difference is the presence of the front drive axle and other minor items that are unique to the 4-wheel drive system. Where differences occur that relate to the procedure, they are identified.

1. Place the vehicle on level ground and set the parking brake. Block the rear wheels so the vehicle will not roll in either direction.

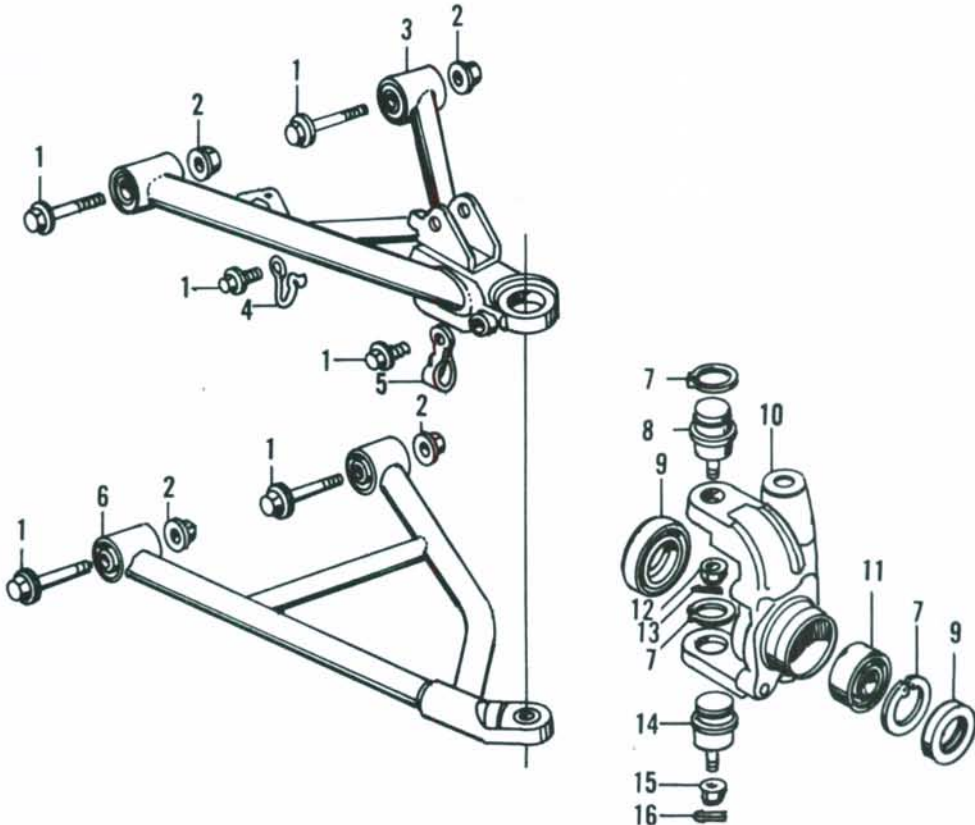
2. Remove the front wheels as described in this chapter.
3. Remove the front fender as described in Chapter Thirteen.

NOTE

It is not necessary to disconnect the hydraulic brake hose from the brake panel. Move the brake panel out of the way and support it with a piece of wire to take the weight off the brake hose.

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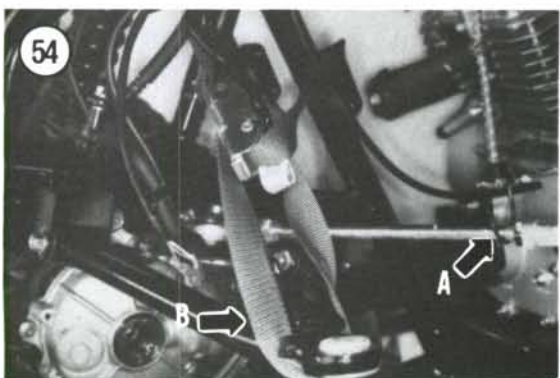
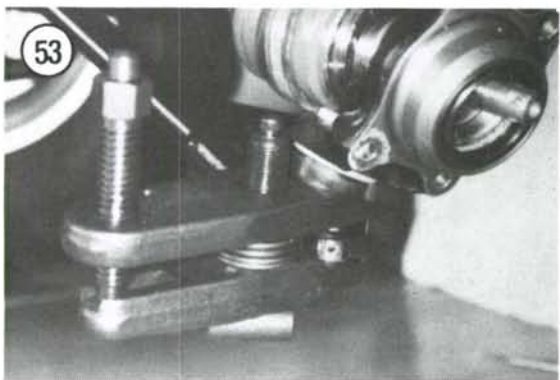
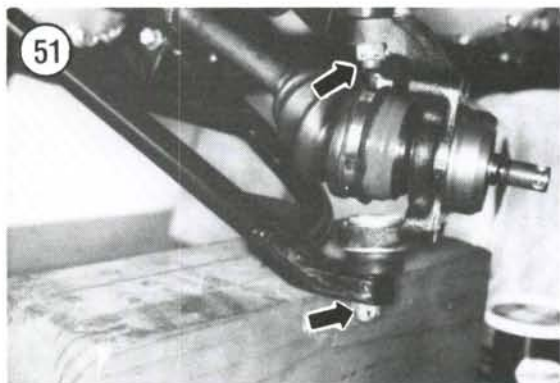
**STEERING KNUCKLE AND FRONT SUSPENSION ARM
(4-WHEEL DRIVE AND 1993-ON 2-WHEEL DRIVE)**



- 1. Bolt
- 2. Self-locking nut
- 3. Upper A-arm
- 4. Clamp
- 5. Clamp
- 6. Lower A-arm

- 7. Circlip
- 8. Upper ball joint
- 9. Dust seal
- 10. Steering knuckle
- 11. Bearing

- 12. Castellated nut
- 13. Cotter pin
- 14. Lower ball joint
- 15. Castellated nut
- 16. Cotter pin



4. Remove the front brake drum, brake hose and brake panel as described in Chapter Twelve.

5. Disconnect the outer end of the tie rod from the steering knuckle as described in this chapter.

6. On 4-wheel drive models, remove the cotter pins and castellated nuts (**Figure 51**) securing the upper and lower ball joints to the steering knuckle.

7. Attach a ball joint puller (Honda part No. 07MAC-SL00200 or 07941-6920003) or equivalent, to the ball joint and tighten with a wrench. Remove the steering knuckle from both the upper A-arm (**Figure 52**) and the lower A-arm (**Figure 53**).

8A. On 4-wheel drive models, carefully slide the steering knuckle off the drive axle. Tie the end of the drive axle to the frame to prevent it from over-extending downward and damaging the joint assemblies.

8B. On 1993-on 2-wheel drive models, carefully remove the steering knuckle.

9. Tie the tie rod (A, **Figure 54**) and upper suspension arm (B, **Figure 54**) up to the frame to avoid damage from over-extension.

10. Inspect the steering knuckle as described in this chapter.

11. Install by reversing these removal steps while noting the following:

- a. Insert the drive shaft into the steering knuckle (**Figure 55**).
- b. Install the steering knuckle onto the upper and lower A-arms. Install the castellated nuts and tighten to the torque specification listed in **Table 1**.
- c. Install new cotter pins and bend the ends over completely.



Inspection

1. Inspect the steering knuckle for cracks or damage, replace if necessary.

2. Check the holes (**Figure 56**) where the tie rod and upper suspension A-arm ball joint attach. Check for elongation and fractures, replace the steering knuckle if necessary.

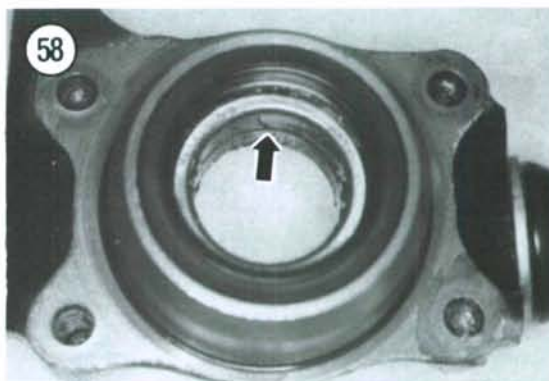
3. Inspect the lower ball joint rubber boot (**Figure 57**). The swivel joint is permanently packed with grease. If the rubber boot is damaged, dirt and moisture can enter the swivel joint and destroy it. If the boot is damaged in any way; replace the ball joint as described in this chapter.

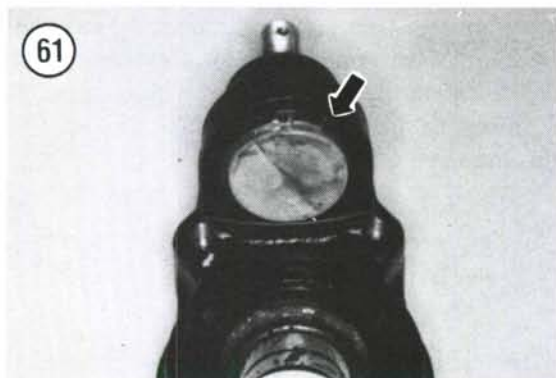
4A. On 4-wheel drive models, perform the following:

- a. Turn the bearing inner race (**Figure 58**) with your finger. It should turn freely, smoothly and quietly with no signs of damage. Replace if necessary as described in this chapter.
- b. Inspect the inner dust seal (**Figure 59**) and outer dust seal (**Figure 60**). If either seal is damaged in any way, it should be replaced. A damaged seal will allow grit and moisture to enter the bearing resulting in premature wear.

4B. On 1993-on 2-wheel drive models, perform the following:

- a. Inspect the spindle portion where the front wheel bearings ride for wear or damage. A hard spill or collision may cause the spindle portion to bend or fracture. If the spindle is damaged in any way, replace the steering knuckle.
- b. Check the hole at the end of the spindle where the cotter pin fits. Make sure there are no fractures or cracks leading out toward the end



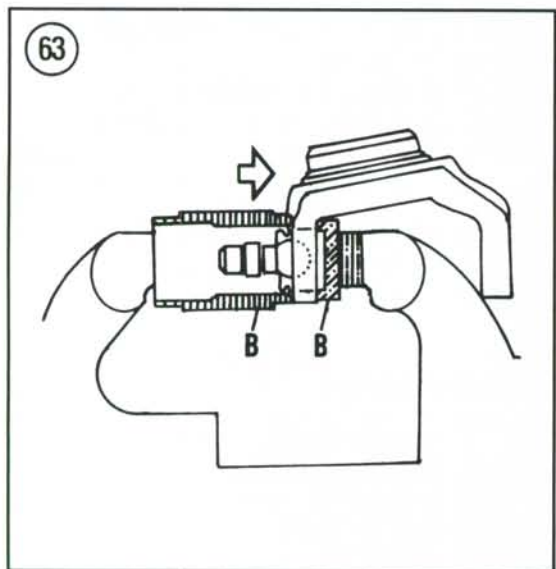
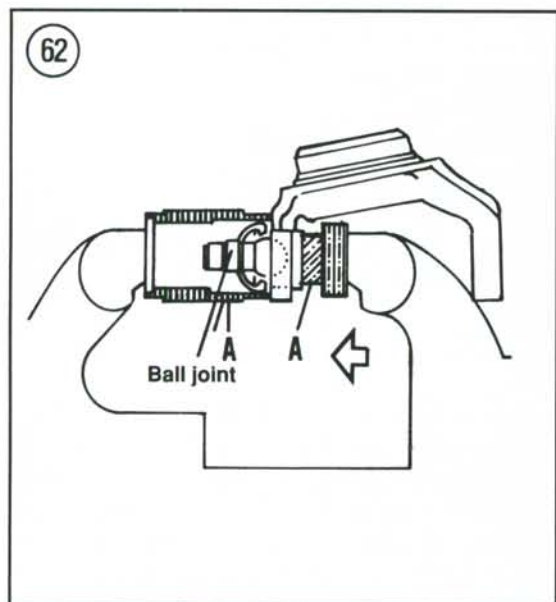


of the steering knuckle. If any are present, replace the steering knuckle.

Lower Ball Joint Replacement

CAUTION

Ball joint removal and installation require special tools. Do not try to replace the ball joints without these tools as the steering knuckle may be damaged.



1. Remove the circlip (**Figure 61**) securing the lower ball joint to the steering knuckle.
2. Position the special tools (Honda part No. 07JMD-HC50100) or equivalent, with the "A" mark facing the ball joint and install the special tools and the steering knuckle in a vise (**Figure 62**).
3. Slowly tighten the vise and press the ball joint out of the steering knuckle.
4. Remove the special tools, steering knuckle and ball joint from the vise.
5. Clean the ball joint receptacle in the steering knuckle with solvent and thoroughly dry.
6. Correctly position the new ball joint into the steering knuckle and use the same special tools used for removal. Position the special tools with the "B" mark facing toward the ball joint.
7. Install the special tools and the steering knuckle in a vise (**Figure 63**).

CAUTION

*While tightening the vise, if there is a strong resistance or if the vise stops moving, **stop** immediately. There probably is an alignment problem with either the ball joint or the special tool. Realign the ball joint and special tools and try again. The ball joint should press in with a minimum amount of resistance.*

8. Slowly tighten the vise and press the ball joint straight into the steering knuckle. Press the ball joint in until it bottoms out.
9. Remove the special tools and the steering knuckle from the vise.
10. Make sure the circlip groove is completely visible in order to accept the circlip. Press the ball joint in farther if necessary.
11. Install the circlip and make sure it seats correctly.

Bearing Replacement (4-Wheel Drive Models Only)

NOTE

The steering knuckle on 1993-on 2-wheel drive models is not equipped with this bearing.

1. Remove the bearing inner dust seal (**Figure 59**) and outer dust seal (**Figure 60**) from each side of the bearing. Discard both dust seals, new ones must be installed.
2. Remove the circlip securing the bearing.
3. To remove the bearing, carefully tap the bearing out from the circlip side of the steering knuckle.
4. Pack the bearing with a good-quality bearing grease. Work the grease in between the balls thoroughly; turn the bearing by hand a couple of times to make sure the grease is distributed evenly inside the bearing.
5. Apply a light coat of grease to the steering knuckle bearing receptacle and the outer surface of the bearing.
6. Place the steering knuckle on a piece of soft wood to support the bearing receptacle area.
7. Tap the bearing squarely into place and tap on the outer race only. Use a socket that matches the outer race diameter. Do not tap on the inner race or the bearing might be damaged. Make sure the bearing is completely seated so the circlip can be installed above it.
8. Install the circlip and make sure it is completely seated in the groove.
9. Install a *new* bearing dust seal onto each side of the bearing.
10. Apply a light coat of grease to the lip of both new dust seals.

FRONT SUSPENSION A-ARM (1988-1992 2-WHEEL DRIVE)

Removal/Installation

Refer to **Figure 47** for this procedure.

1. Remove the front wheel and steering knuckle as described in this chapter.

CAUTION

See the CAUTION at the beginning of this chapter relating to the use of self-locking nuts.

2. Remove the bolts and self-locking nuts securing front suspension arm to the frame. Remove the arm and discard the nuts.
3. Inspect the front suspension arm as described in this chapter.

CAUTION

See the CAUTION at the beginning of this chapter relating to the use of self-locking nuts.

4. Install the front suspension arm onto the frame.
5. Install the bolts and *new* nuts securing the front suspension arm. Tighten the nuts only finger-tight at this time. They will be tightened to the final torque after the front wheels are installed and the vehicle is on the ground.
6. Install the steering knuckle and front wheel as described in this chapter.
7. Lower the vehicle to the ground.
8. Tighten the self-locking nuts to the torque specification listed in **Table 1**.

Inspection

1. Inspect the front suspension arm for cracks, fractures and dents. If damage is severe, replace the arm. Never try to straighten a damaged or dented suspension arm as it cannot be straightened correctly.
2. Inspect the ball joint rubber boot. The swivel joint is permanently packed with grease. If the rubber boot is damaged, dirt and moisture can enter the swivel joint and destroy it. If the boot is damaged in any way, replace the front suspension arm, as the ball joint cannot be replaced.
3. Inspect the pivot point bushings for wear or damage. If damaged, replace the front suspension arm as the bushings cannot be replaced.

FRONT SUSPENSION A-ARMS (4-WHEEL DRIVE AND 1993-ON 2-WHEEL DRIVE)

Removal/Installation

NOTE

This procedure is shown on a 4-wheel drive model. The only major difference is the presence of the front drive axle and other minor items that are unique

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